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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/702,831	11/01/2000	Kiczo Yamada	NEC-F90/USA	1084

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EXAMINER

NGUYEN, VINH P

ART UNIT	PAPER NUMBER
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2829

DATE MAILED: 09/23/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/702,831

Applicant(s)

YAMADA ET AL.

Examiner

VINH P NGUYEN

Art Unit

2829

-- Th MAILING DATE of this communication app ars on the cov r sheet with th correspondenc address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 11 July 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-35 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-3 and 27 is/are allowed.
- 6) ☒ Claim(s) 4-26 and 28-35 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☒ The proposed drawing correction filed on 07/11/03 is: a) ☐ approved b) ☒ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

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1. Claims 1-3 and 27 are allowable since the prior art does not disclose a semiconductor device tester includes means for obtaining an information related to a structure of the sample in a depth direction on the basis of changes of the measured current of the current measuring means caused by a penetration depth of the electron beam for the sample when the latter is scanned with different acceleration voltages.
2. Since claim 1 is generic and allowable, non-elected claims are hereby rejoined and all claims have been examined.
3. Claims 4-26 and 28-35 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 4, it is unclear what “means for obtaining a distance of a bottom of said measuring region from a space between rising and following edges of a current measured along said line segment” represent. Is it shown in any of drawings?

In claim 5, it is unclear what “area calculation means” represent. Is it shown in any of drawings?

In claim 6, it is unclear what “distance calculation means” represent. Is it shown in any of drawings?

In claim 7, it is unclear what “means for calculating a ratio of a value...” represents. Is it shown in any of drawings?

In claim 8, it is unclear what “means for determining the value of current produced when a standard sample is irradiated with electron beam...” represents. Is it shown in any of drawings?

In claim 9, it is unclear what “means for comparing a current value measured ...” represents. Is it shown in any of drawings?

In claim 10, it is unclear what “a secondary electron detector” represents. Furthermore, it is unclear how this secondary electron is interrelated and associated with the information related to a structure of the sample in a depth direction on the basis of changes of the measured current of the current measuring means caused by a penetration depth of the electron beam for the sample when the latter is scanned with different acceleration voltages. In claim 11, it is unclear what “means for obtaining a bottom distance ...” and “means for obtaining an upper distance...” represents. Is it shown in any of drawings?

In claim 12, it is unclear what “means for three dimensionally displaying a circular pillar or a frustum of a cone...” represents. Is it shown in any of drawings?

In claim 13, it is unclear what “means for processing a tilting angle of the sample...” represents. Is it shown in any of drawings?

In claim 14, it is unclear what “recording means” represents. Is it shown in any of drawings?

In claim 15, it is unclear what “means for setting a cross sectional shape...” represents. Is it shown in any of drawings?

In claim 16, it is unclear what “means differentiated curve of current value...” and “means for obtaining a radius of a bottom portion...” represent. Are they shown in any of drawings?

In claim 17, it is unclear what “means for displaying ...” represents. Is it shown in any of drawings?

In claim 18, it is unclear what “means for comparing a measured value...” and “means for extracting positional ...” represent. Are they shown in any of drawings?

In claim 22, it is unclear what “means for comparing waveform...” represents. Is it shown in any of drawings? In claim 23, it is unclear what “means for integrating current from a rising edge...” and “divider means” represent. Are they shown in any of drawings?

In claim 23, it is unclear what “means for comparing...” represents. Is it shown in any of drawings?

In claim 25, it is unclear what “means for comparing center position...” represents. Is it shown in any of drawings?

In claim 26, it is unclear what “sub scan means” represents. Is it shown in any of drawings?

In claim 28, it is unclear what “means for obtaining a three dimensional configuration of a through hole ...” represents. Is it shown in any of drawings?

In claim 29, it is unclear what “means for detecting whether a diameter of a through hole...” represents. Is it shown in any of drawings?

In claim 30-31, it is unclear what “means for detecting deviation of a circuit pattern in an insulating film...” represents. Is it shown in any of drawings? In claim 32, it is unclear what “means for taking in an information...” represents. Is it shown in any of drawings?

In claim 33, it is unclear what “means for correcting current component...” represents. Is it shown in any of drawings?

In claim 34, it is unclear what “means for changing a repetition period of electron beam” and “means for obtaining the DC component...” represents. Is it shown in any of drawings? In claim 35, it is unclear what “means for switching scan speed...” represents. Is it shown in any of drawings?

4. Claims 4-26 and 28-35 rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

It is unclear from the specification whether it has support for the questionable limitations in claims 4-26 and 28-35 in previous paragraph # 3.

5. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the features of limitations in claims 4-26 and 30-35 in previous paragraph # 3 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

6. Applicant's arguments filed on 07/11/03 have been fully considered but they are not persuasive.

It appears that Applicants still do not show how the limitations of the claims 4-26 and 30-35 read on the drawings by pointing out which element on the drawings corresponding to each of the questionable limitations of claims 4-26 and 30-35.

7. The proposed drawing corrections filed on 07/11/03 have not been approved since Applicants have not pointed out in the specification where their supports are.

8. In claim 2, the limitation of "The electron beam irradiation means preferably includes means for moving the sample under test with respect to electron beam in order to scan the sample with electron beam." should be deleted.


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9. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to VINH P. NGUYEN whose telephone number is (703) 305-4914.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 305-4900.

  
VINH P. NGUYEN  
PRIMARY EXAMINER  
ART UNIT 2829  
09/15/03